

## MCQ questions

- ① Spectrophotometer used in ..... and .....  
hematological parameters
- ② Replacement of light is necessary After  
operate ..... to ..... hrs.
- ③ UV Rays has shorter... wave length Below  
..... nm.
- ④ IR Rays has ... longer... wave length above  
..... nm.
- ⑤ Concentration of unknown sample =  
$$\frac{\text{standard conc.} \times \% \text{ of sample}}{\% \text{ of standard}}$$
- ⑥ To ensure the stability of spectrophotometer  
it's advise to use electric stabilizer
- ⑦ Essential Parts of Atomic absorption Are  
hollow Cathode lamp, flame, monochromatic filter, photodetector  
and Readout
- ⑧ In flame Atomizer liquid sample transform  
into aerosol



- ① Chromatography used for identification, purification, Quantitative of the mixture component.
- ② Types of chromatography Are Thin layer (TLC) chromatography and Paper chromatography
- ③ Mobile phase of TLC is liquid solvent while stationary phase is Thin layer of gel (Silica - starch - Polyacrylamide - Aluminum).
- ④ In Column chromatography stationary phase media are Resin particles, Aluminum and Silica gel.
- ⑤ Types of Column chromatography Are liquid-liquid, Ion-exchange, size exclusion and HPLC.
- ⑥  $t_R$  is ..... while  $t_m$  is .....
- ⑦ The fractional compounds generated from detector is in form of measurable peaks.
- ⑧ Electrophoresis used for Fractionation of serum Protein.



① In electric field, Albumin migrate to Anode.  
First while, globulin migrate to Anode... But,  
... slowly...

② Component of electrophoresis According to  
Supporting media: PAGE..., IEP..., DNA agarose,  
... CAE..., sequencing gel.

③ Procedures of electrophoresis are drying of sample,  
fixation, staining..., Removal of excess and  
... Quantization stain.

④ Densitometry used for quantification the  
individual zone as the Percent of the total or absolute conc.

⑤ Electrochemistry include Potentiometry and  
... ISEs...

⑥ Most Common method for electrolytes  
analysis are ISEs... while in Post  
is Flame photometer.

⑦ Serum Protein migrate to Anode.  
while, Butcher Particles migrate  
toward Cathode in Buffer of pH. 8.6. ③



④ Bacteria is present normally in urine sample collected by voided method. But, not in sample collected by catheterization.

⑤ Manual Compression of u.B not used for Bacteriological examination and contraindicated in obstructed urethra and overdistended u.B.

⑥ No. of RBG in sample collected by catheterization is 0-5/HPE.

⑦ Common method for urine collection in large A<sup>1</sup> is catheterization while, small A<sup>1</sup> is Cystocentesis.

⑧ To get an accurate urinalysis report urine sample must be freshly prepared.

⑨ Chronic interstitial nephritis cause Polyuria while, Acute cause oliguria of urine volume.

⑩ Polyuria due to orally fluid intake called Psychogenic water consumption.



③① Normal urine of horse is <sup>thick</sup> . . . . . due to Ca Carbonate Crystals and Mucus . . . . .

③② Strong Ammonia odour indicate Presence of Bacteria due to Converting of urea to Ammonia . . . . .

③③ Normally specific gravity varies <sup>inversely</sup> . . . . . with urine volume .

③④ Methods of determination of specific gravity are urinometer and Refractometer . . . . .

③⑤ Normal specific gravity is 1.020 to 1.030 while it becomes fixed in Isothenuria Between 1.008 and 1.012 while in diabetes insipidus become 1.001 to 1.006 . . . . .

③⑥ Acid urine Normal in Carnivores while Alkaline Normal in herbivores . . . . .

③⑦ Renal proteinemia is due to Renal nephritis and nephrosis . . . . . (5)



③ detection of Albumin in urine done  
By heat . . and Acetic Acid preparation test

③ Nephrotic syndrome, protein used is  
more than 350 . . . . . mg/24 hrs.

④ Glucose oxidase strip test specific  
only for glucose . . Not react with lactose,  
fructose, galactose.

④ False +ve Result of glucose with  
strip method due to . . . . .

. . . . .  
while false -ve due to . . . . .  
. . . . .

④ glucosuria without hyperglycemia  
called Pancreatic syndrome and it is due to  
tubular damage . . . or Renal tubular dysfunction.

④ glucosuria with hyperglycemia  
occurs when Blood glucose exceed  
180 mg/dl . . and called Renal threshold of glucose



④ Bilirubin present normally in urine of Dog and Cat... while in other A's its presence indicate <sup>hepatic</sup> or Post-hepatic Jaundice

⑤ ↑ urobilinogen in urine indicate obstructive or hemolytic Jaundice

⑥ Persistent absence of urobilinogen caused by . . . . . ,  
. . . . .



⑦ diseases of myoglobin used in Horse is <sup>Monday morning</sup> sickness . . . while in Canine is severe Rhabdomyolysis

⑧ +ve leukocyte esterase test indicate Presence of Pyuria . . .

⑨ Presence of Nitrite in urine indicate Bacterial infection.

⑤ RBCs under normal conditions is 0-3/HpC while WBCs is 0-5/HpC . . .

⑦



⑤ Organized sediment of urine include  
WBCs, RBCs, Casts, epithelial cells and  
M.O (Bacteria, yeast, fungi)  
while unorganized include  
Crystals, Pigments and fat droplets.

⑤ WBCs in Alkaline pH are swollen,  
Ragged and very granular.

⑤ Morphology of RBCs According to  
specific gravity

⑤ Ghost Cell RBCs in low specific  
gravity due to water withdrawal from urine  
to RBCs

⑤ Casts Present only in distal convoluted tubules  
collecting ducts and require Acidic urine,  
Proteinuria and stasis of urine for  
formation.

⑤ Cylindrosis Are Casts with long and thin  
tail formed at Junction between Henle's  
loop and distal convoluted tubule. ⑧



(57) Hyaline cast indicate slight degree of renal insufficiency and reversible while waxy cast indicate chronic renal failure and irreversible.

(58) in large A' fecal sample obtained from rectum by gloved hand

(59) sample for microbial examination collected by sterile fecal spoon.

(60) in flotation method sample is taken from top fluid of centrifuge tube by using wire loop.

(61) sedimentation method include Tape wate technique and Acid-ether method which consists of 5% Acetic Acid or Hcl and ether.

(62) Acid-ether method of choice for trematode or Baker egg

(63) Capacity of one chamber of Mc-Master is 0.15 ml. (9)



④ In Beaman apparatus the funnel  
filled with ... <sup>warm water</sup> at ...  $37^{\circ}\text{C}$  ...

⑤ sheather's sugar used in Mc-Nister  
due to ... <sup>its</sup> high specific gravity.

⑥ EPG in one chamber is  $\text{No. of eggs} \times$   
 $\frac{200}{\dots}$  while in 2 chambers  
is  $\text{No. of eggs} \times 100$  ...

⑦ differentiation between anaplasma  
and Howell Jowley Bodies By ...



⑧ Trypanosoma is - inter cellular M.O while  
toxoplasma is - <sup>intra cellular M.O</sup> ...

⑨ urine sample which preserved after  
one hour should be refrigerated.

⑩ selenite F broth used for isolation  
of salmonella, shigella while toffler's  
serum used for growth of diphtheria. ⑩



① Solid media used for isolation of  
Pure culture M.O.

② Nutrient gelatin media used for  
identification of ... Vibrio cholera.

③ chocolate agar used for isolation  
of ... hemophilus.

④ Blood agar used for isolation of  
Aerobic M.O.

⑤ Selective media used for isolation  
of S. Paratyphi is DCA ... while  
Liquid media is tetrathionate.

⑥ TSI agar used to differentiate  
Salmonella, Shigella, E. coli and  
Pseudomonas aeruginosa

⑦ Preparation of smear for Microscopic  
examination are direct smear ... smear from  
Broth and smear from solid media



⑩ Most Common simple stain is  
methylene Blue.

⑪ Zeihl Neelsen stain used for identification  
of Mycobacterium tuberculosis which facilitate  
penetration of M.O.

⑫ direct agglutination test used for  
diagnosis of Brucella.

⑬ Rheumatoid arthritis can be detected  
by C-RP and RF.

⑭ ANA used for diagnosis of systemic  
lupus erythematosus.

⑮ direct Comb's test depend on infant  
RBCs while indirect depend on  
maternal serum.

⑯ In direct H.A test Ag Coated with  
washed RBCs and the titre is concentration  
at the first well shows complete  
precipitation of RBCs in bottom.



85) Neutralization test used for diagnosis of Rheumatic fever By Anti streptolysin O (ASO).

86) ACA is <sup>Anti Cardiolipin Antibodies</sup> and detected By <sup>ELISA</sup> and causes is <sup>Arterial</sup> thrombosis, <sup>Thrombocytopenia</sup>, <sup>Recurrent</sup> fetal loss.

87) IUGR Caused By <sup>Thrombosis</sup> due to ACA.

88) ANCA is <sup>Antineutrophilic Cytoplasmic Abs</sup> and detected By direct, indirect immuno fluorescence.

89) Coarse granular ANCA Caused By Proteinase-3 while P-ANCA associated with IBD.

90) IBD is associated with P-ANCA.

91) Radio immune <sup>assay</sup> is method of choice for estimation of hormones.



⑨ Cytocentesis is contraindicated in  
Ascites and Thrombocytopenia

⑩ in Culture and sensitivity test the space  
between every Antibiotic disc must  
be not less than 2cm and incubation  
at  $37^{\circ}\text{C}$  for 24 hrs.

⑪ Types of direct agglutination test  
are widel (Typhoid), Brucella agglutination test

⑫ direct Comb's test used for diagnosis  
of erythroblastosis fetalis while indirect used  
for detection of Anti Rh in maternal serum...

⑬ in case of pregnancy ACAs may react  
against trophoblast result in subplacental clots and  
interfere with further placentation.

⑭ Thrombosis due to ACAs occur in All  
stages of pregnancy Result in spontaneous  
abortion and IUGR

⑮ p-ANCA detected in 60-85% of  
ulcerative colitis.



99 Polakurid is . . . Frequent voiding of small amounts of urine  
Anurid is . . . Complete absence of urine production  
dysurid is . . . difficult Painful urination . . .

100 If foam is abundant and slowly disappears indicate Proteinuria, green or yellow foam indicate Bile salt, Red to Brown foam indicate Hemoglobin in urine.

101 There are 3 stages of chronic interstitial nephritis  
1.012 - 1.015  
1.008 - 1.012 in Isothenuria, 1.003 - 1.008 in chronic renal failure

102 each 0.4gm of protein or 0.27gm of glucose increases sp.gr. by 0.001

103 Albuminuria detection done By heat, Acetic Acid Preparation test.

104 If No. of leukocytes more than 10 indicates inflammation, Necrosis of renal tissue.

105 WBCs may be difficult to distinguish due to degeneration of nucleus, Precipitation of crystals on the surface.



(106) If sample is obtained By Catheterization or Cysto-centesis, wBcs are derived from <sup>Bladder</sup>, <sup>ureter</sup>, <sup>Kidney</sup>, <sup>Pelvis</sup>...

(107) Preservation of urine sample occur within 12 hrs. before antibiotic administration.

(108) fecal sample in case of Rectal hemorrhage is <sup>Red Blood</sup> color, in intestinal hemorrhage <sup>Brown to black Blood</sup> color.

(109) Tap water not preferred for <sup>Trophozoite</sup>.  
So, use <sup>Physiological</sup> <sup>Saline</sup> as it remain intact and motile.

(110) In Tap water technique Centrifugation Not more than 1000 r.p.m. / 5 min. But, in Acid-ether method 25000 r.p.m. / 1-2 min.

